

by the Bureau of Standards for standardizing bomb calorimeters by means of standard samples of certain pure materials, viz., sugar, naphthalene and benzoic acid. By burning known amounts of these substances in the bomb the observer determines the amount of heat required to raise the temperature of the bomb together with the proper amount of water one degree. This being determined the amount of heat furnished by a given sample of coal burned in the same bomb with the same amount of water can be found. Thus these standard samples, which are sent all over the United States, serve as standards of heat and make it possible to get the same results from tests made anywhere in the country, much as the use of the standards of length and of mass makes a yard or a pound the same in all parts of the country. Copies of this paper known as Circular No. 11, "Standardization of Bomb Calorimeters," may be obtained without charge upon application to the Bureau of Standards, Washington, D. C.

THE *Journal* of the American Medical Association reports that Mr. James Berry, who is at the head of a British hospital mission at Vrnjachka Banya, has collected from official sources figures which show that ninety-three Serbian physicians have died out of a total of 387 alive at the beginning of the war. Of these, no fewer than eighty-two succumbed to typhus fever, and only one was killed in battle. These figures contrast remarkably with those of the recent Turkish war in which Serbia lost only two physicians. Of the foreign physicians who have come to her aid in this war, thirty-five have died from typhus or typhoid fever. They include three British, four American, two Belgian, several Greeks, and six others.

UNIVERSITY AND EDUCATIONAL NEWS

DR. JOHN LEE COULTER has been appointed dean of the College of Agriculture and director of the Experiment Station of the West Virginia University. He goes from the George Peabody College, and will take the place of E. D. Sanderson, who resigned about a year ago.

At the Johns Hopkins University, the degree of bachelor of science in education has been established in connection with the college courses for teachers and the summer courses. The degree will be open to men and women. The regulations concerning the work for the new degree will be determined by an advisory committee of the faculty. The title of director of the college course for teachers and of the summer courses has been assigned to Professor Edward F. Buchner.

DR. ORIN TUGMAN, of the staff of the research laboratory of the Eastman Kodak Company, has been elected associate professor of physics at the University of Utah.

DR. L. CHAS. RAIFORD, of the department of chemistry of the University of Chicago, has been elected professor of chemistry in the Oklahoma Agricultural and Mechanical College.

DR. J. A. MENZIES has been appointed professor of physiology in the University of Durham College of Medicine, Newcastle-upon-Tyne.

DISCUSSION AND CORRESPONDENCE

ANOTHER REASON FOR SAVING THE GENUS

I AM writing to second Dr. F. B. Sumner's plea for the saving of the genus.¹ I am sure he has the sympathy of the great mass of workers in non-taxonomic biology. Leaving aside the question of expressing relationship in the generic name which Sumner has so well stated, there is another point that he has not sufficiently emphasized. It is by the genera that animals and plants are catalogued. In the *Nautilus*, Vol. 28, February, 1915, the writer made this plea. I illustrated it by the form on which I had been working for the past eight years, the genus *Lymnaea*. I quote the following passage from that paper:

The most recent classification of this group is that of F. C. Baker in his admirable "*Lymnaeidae of North and Middle America*" (Chicago Academy of Sciences Pub. No. 3, 1911), p. 120. Whereas the older classifications considered shell characters alone, this author "proposed to classify the

¹ "Some Reasons for Saving the Genus," *SCIENCE*, Vol. XLI., No. 1068, p. 899.

Lymnæids by the characters of the shell, genitalia (shape of prostate, relative size and form of the penis and penis-sac) and radula."

On a basis of these criteria he has split the genus *Lymnæa*, as defined by Haldeman, 1840, Gould, Binney, 1868; Dall, 1871; Tryon, 1872 and 1884, and more recently by Dall in 1905, into six genera: *Lymnæa*, *Pseudosuccinea*, *Radix*, *Bulimnæa*, *Acella* and *Galba*. He has done this mainly by raising a number of subgenera and sections of former authors to generic rank. I wish to ask this question: Is this at the present time justifiable? (1) Baker lists 103 species and varieties of the old *Lymnæa* in this work. Of but 33 have anything of the anatomy, radula and genital organs been studied. Therefore the shell characteristics are the important ones after all. (2) All these new genera are based largely on quantitative characters. The only qualitative character mentioned is the radula and this is given quite a subordinate place in the classification. (3) In his diagnosis of the genus *Galba* in his key he states that the "Penis" (epiphallus) is shorter than the "penis-sac" (penis). However, for two of the species of this genus the epiphallus is longer than the penis. (See Baker, pp. 263 and 277.)

In the mind of the writer our present knowledge will not allow us to make a comprehensive classification of the Lymnæids based on the anatomy of the snail. We know too few species well. On the other hand, the shell characters alone in a mollusk with such a generalized form of shell as have the Lymnæids are not characters on which one can base much reliance. On account of these reasons the writer would make the recommendation that the old genus *Lymnæa* should be retained in the sense that it has been used for the past seventy years.

In the *Nautilus* for June, 1915, Mr. F. C. Baker answered the writer in an article entitled "On the Classification of Lymnæids." I think this may be taken as the typical attitude of a taxonomist. He said:

The writer can by no means agree with the statement made twice in this paper (*loc. cit.*) that generic names should not be added unless based on undebatable grounds, because of the inconvenience of the cataloguer. If this criticism should be recognized we should revert to the use of many of the older names in the Pulmonata as well as in the Naides.

It is recognized, of course, that generic subdivisions can be overdone, but in the advancement of

science the convenience of the cataloguer or teacher is not considered.

We welcome all additions to knowledge and we know full well that the work of yesterday is rendered obsolete by the work of to-morrow, but the writer can not see how the reduction to subgenera and sections of the names used as genera and subgenera in the monograph in question advances our knowledge of the family any more than the raising of a number of subgenera and sections to generic rank, as Colton believes the writer to have done in his monograph. This rather resembles a game of see-saw.

This whole discussion hangs on the question, is it necessary to change generic names to advance our knowledge? The writer believes that to change generic names without an overwhelming amount of evidence in favor of the change is hindering instead of advancing science. Species and minor groups, on the other hand, can not be too much subdivided. It is an advance to describe every variation that can be distinguished. Of this work Bateson² says:

They will serve science best by giving names freely and by describing everything to which their successors may possibly want to refer, and generally by subdividing their material into as many species as they can induce any responsible society or journal to publish.

In conclusion, generic names are those by which animals are catalogued, therefore should not be changed without overwhelming evidence in favor of the change. This value of the generic name has not been sufficiently emphasized.

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THE END OF CORY'S SHEARWATER

CORY'S SHEARWATER (*Puffinus borealis*) does not exist. It seems a pity to abolish so time-honored and respected a species; but the truth is that it already stands abolished, and nothing is required but the awakening of us American bird-men to the fact. It is indeed a token of provincialism on our parts that this remarkable error should have gone for thirty-four

² "Problems of Genetics," p. 249.